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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,127	12/20/2001	Anthony J.P. O'Toole	21676-06533	6972

758 7590 09/30/2004

FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

EXAMINER	
TRAN, THIEN D	
ART UNIT	**PAPER NUMBER**
2665	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

A/C

Office Action Summary	Application No.	Applicant(s)	
	10/032,127	O'TOOLE ET AL.	
	Examiner	Art Unit	
	Thien D Tran	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/19/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments, filed 06/29/2004 with respect to the improper rejection of claim 20 in the final rejection dated 04/19/2004 have been fully considered and are persuasive. The final rejection dated 04/19/2004 has been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4-22 are rejected under 35 U.S.C. 102(b) as being participated by Gerszberg et al (U.S Patent No. 6,307,839 B).

Regarding claim 1, Gerszberg discloses a DSL modem comprising:

an ISD (bandwidth allocator) adapted to dynamically adjust a bandwidth allocation based on voice channel demand, col.10 lines 1-5, the bandwidth allocation defining a bandwidth for each of a plurality of voice channels and unchannelized data, col.10 lines 30-35; and

a multiplexing function of ISD (formatter) coupled to allocate bandwidth (bandwidth allocator), the formatter adapted to multiplex (combine) the voice channels and unchannelized data into a supperframe transmission via DSL, col.12 line 63 to col.13 line 15, onto a digital subscriber line, the superframe containing a plurality of

number of frames supporting for L1...L5 rates or H1...H5 rates (network frames), col.11 lines 29-63, each network frame containing a plurality of user frame as shown in figures 6 (low-level frames), each user frame containing the voice channels and the uncharmelized data in a plurality of timeslots allocated according to the bandwidth allocation, thereby creating a transmission signal, col.15 lines 45-60 and col.12 line 63 to col.13 line 15.

Regarding claim 4, Gerszberg discloses the DSL modem, wherein the transmission signal includes bandwidth allocation for data and voice (next bandwidth allocation data), col.9 lines 60-67.

Regarding claim 5, Gerszberg discloses the DSL modem, wherein the bandwidth for each voice channel is associated with a timeslot in the transmission signal, and the remaining transmission signal bandwidth is available for data, figure 4.

Regarding claim 6, Gerszberg discloses the DSL modem, wherein the bandwidth allocator is adapted to adjust the bandwidth allocation at integer multiples of the periodicity of the timeslots, col.13 lines 1-15.

Regarding claim 7, Gerszberg discloses the DSL modem, wherein the formatter is adapted to format the transmission signal into a series of superframes, each superframe including a plurality of network frames, each network frame including a plurality of low-level frames, each low-level frame including a plurality of timeslots, the timeslots containing a voice call or data, col.13 lines 15-35.

Regarding claim 8, Gerszberg discloses the DSL modem, wherein the bandwidth allocator is adapted to adjust the bandwidth allocation at the frequency of the superframe, col.13 line 10.

Regarding claims 9, 21, Gerszberg discloses the DSL modem, wherein the network frames are synchronized to a telephone-network timing reference, col.12 line 65.

Regarding claim 10, Gerszberg discloses the DSL modem, wherein at least one voice channel includes voice data selected from the group consisting of: voice data, facsimile data, analog modem data, and digital service data, figure 1.

Regarding claim 11, Gerszberg discloses the DSL modem, wherein the DSL modem is a central office modem, col.5 lines 25-30.

Regarding claim 12, Gerszberg discloses a DSL modem comprising:

a DSL connection for transmitting information over a digital subscriber line, col.6 line 66;

a plurality of voice lines for carrying channelized data, figure 1; and

an ISD (module) coupled to the DSL connection and the plurality of voice lines for transmitting channelized data and unchannelized data over the digital subscriber line, the module adapted to dynamically allocate bandwidth for transmitting the channelized data based on availability of channelized data, col.10 lines 20-35, and to dynamically reallocate unused channelized data bandwidth for transmitting the unchannelized data, col.15 lines 55-60, the channelized and unchannelized channels arranged in supperframe transmission via DSL, col.12 line 63 to col.13 line 15, onto a

digital subscriber line, the superframe containing a plurality of number of frames supporting for L1...L5 rates or H1...H5 rates (network frames), col.11 lines 29-63, each network frame containing a plurality of user frame as shown in figures 6 (low-level frames), each user frame containing the voice channels and the uncharmelized data in a plurality of timeslots allocated according to the bandwidth allocation, col.15 lines 45-60 and col.12 line 63 to col.13 line 15.

Regarding claim 13, Gerszberg discloses a method of dynamically allocating bandwidth in a digital subscriber line among channelized data from local phone lines and unchannelized data, col.15 lines 55-65, the method comprising:

establishing a connection to a digital subscriber line, col.7 lines 20-30;

allocating a portion of the bandwidth for each of a plurality of the local phone lines in use, the remaining bandwidth available for unchannelized data, col.10 lines 30-35;

transmitting the channelized and unchannelized data over the digital subscriber line the channelized and unchannelized channels arranged in supperframe transmission via DSL, col.12 line 63 to col.13 line 15, the superframe containing a plurality of number of frames supporting for L1...L5 rates or H1...H5 rates (network frames), col.11 lines 29-63, each network frame containing a plurality of user frame as shown in figures 6 (low-level frames), each user frame containing the voice channels and the uncharmelized data in a plurality of timeslots allocated according to the bandwidth allocation, col.15 lines 45-60 and col.12 line 63 to col.13 line 15.

detecting a voice call come (change) in phone line usage, col.15 lines 50-60; and

reallocating the bandwidths among the local phone lines and unchannelized data based on the detected change, col.15 lines 40-60.

Regarding claim 14, Gerszberg discloses the method, further comprising:

transmitting a bandwidth allocation over the digital subscriber line, the bandwidth allocation defining bandwidths corresponding to the channelized and unchannelized data, col.15 lines 40-60.

Regarding claim 15, Gerszberg discloses the method, wherein the bandwidths allocated for each of the local phone lines in use are substantially equal and are capable of carrying a voice call, col.15 lines 40-60.

Regarding claim 16, Gerszberg discloses the method of transmitting voice calls and digital data over a digital subscriber line, the method comprising:

transmitting digital data and voice data over the digital subscriber line in a bandwidth;

detecting a new voice call;

responsive to the new voice call, dynamically reallocating a portion of the bandwidth to the new voice call; and

combining the voice calls and the digital data for transmitting over the digital subscriber line, col.15 lines 40-60, into supperframe transmission via DSL, col.12 line 63 to col.13 line 15, the superframe containing a plurality of number of frames supporting for L1...L5 rates or H1...H5 rates (network frames), col.11 lines 29-63, each network frame containing a plurality of user frame as shown in figures 6 (low-level frames), each user frame containing the voice channels and the uncharmelized data in

a plurality of timeslots allocated according to the bandwidth allocation, col.15 lines 45-60 and col.12 line 63 to col.13 line 15.

Regarding claim 17, Gerszberg discloses the method, wherein the first portion of the bandwidth is outside POTS band frequencies, figure 5.

Regarding claim 18, Gerszberg discloses the method, wherein the voice call includes data selected from the group consisting of: voice data, facsimile data, analog modem data, and digital service data, figure 1.

Regarding claim 19, Gerszberg discloses the method, further comprising:

responsive to the voice call's ending, reallocating the first portion of the bandwidth to the digital data, col.15 lines 45-60.

Regarding claim 20, Gerszberg discloses a method of dynamically allocating bandwidth among voice and data traffic, the bandwidth comprising a plurality of timeslots, the method comprising:

allocating timeslots among the voice and data traffic, figure 5;

composing a first superframe, the first superframe containing a plurality of network frames, each network frame containing a plurality of low-level frames, each low-level frame containing the voice and data traffic in their allocated timeslots, col.12 lines 55-65;

sending the first superframe over a digital subscriber line, col.12 lines 55-65;

in response to detecting a change in the voice traffic demand, reallocating the timeslots among the voice and data traffic;

composing a second superframe, the second superframe containing a plurality of network frames, each network frame containing a plurality of low-level frames, each low-level frame containing the voice and data traffic in their reallocated timeslots; and sending the second superframe over the digital subscriber line, col.13 lines 5-20.

Regarding claim 22, Gerszberg discloses a the method, further comprising:

sending a next allocation of the timeslots over the digital subscriber line to the remote modem, the next allocation being encoded within the current superframe, col.12 lines 60-65.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg et al (U.S Patent No. 6,307,839 B1) in the view of Bremer et al (U.S Patent No. 6,061,392).

Regarding claims 2, 3, Gerszberg does not disclose the DSL modem, further comprising:

an off-hook detector coupled to the bandwidth allocator, an off-hook detector adapted to couple to one or more local customer premises voice lines for measuring

voice channel demand thereon. However, Bremer discloses the off-hook detector coupled to the CPE to detect (measuring) a coming voice call then allocating bandwidth for the voice connection, figure 4 and col.12 lines 25-35. Therefore, it would have been obvious to one having ordinary skill in the art to implement to feature of off-hook detector contributed to the bandwidth allocation in the DSL modem of Gerszberg so that voice connections can be achieved with the proper bandwidth allocations in the DSL system.

6. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg et al (U.S Patent No. 6,307,839 B1) in the view of Thompson et al (U.S Patent No. 5,491,802).

Regarding claims 23-27, Gerszberg does not disclose that including pad bits in the data frame. Thosmpson discloses inserting pad bytes (bits) in the header of the data frame, col.4 lines 25-45. Therefore, it would have been obvious to one having ordinary skill in the art to include the pad bits into the data frame so that the alignment of byte fields in the data frame can be achieved.

Response to Arguments

7. Applicant's arguments filed 06/29/2004have been fully considered but they are not persuasive.

Examiner agrees that the office action dated 04/19/2004 should be changed to become a non-final action because a newly cited art included for a non-amended claim 20.

Applicant argues that the Gerszberg does not disclose minimizing the offset or peak delay on the DSO voice channels using ***three levels*** of pad bits and the superframe framing bits spreaded throughout the superframe in 12 bit fields for each 1 KHz frame to make the timeslots occurring at a more even rate. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., minimizing the offset or peak delay on the DSO voice channels using ***three levels*** of pad bits and the superframe framing bits spreaded throughout the superframe in 12 bit fields for each 1 KHz frame to make the timeslots occurring at a more even rate) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thien Tran whose telephone number is (571) 272-3156. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Thien Tran

STEVEN NGUYEN
PRIMARY EXAMINER